CLT 66G:
High-precision laser glass processing for up to Gen 6

The CLT 66G laser glass processing tool is designed for 24/7 manufacturing in an industrial environment, supporting a glass substrate size of up to GEN6 transferring into 1500 mm x 1900 mm.
The Corning Laser Technologies systems are developed in close cooperation with the speciality glass experts at Corning. Their material science and optics knowledge adds unique advantages to this laser glass cutting process.

Using ultra-short laser pulses, the CLT 66G cuts by material disassociation rather than ablation. The result is a very low surface roughness, increased as-cut edge strength and yield.
The Corning Laser Technologies process enables cutting fully strengthened glass, Corning® Gorilla® glass, un-strengthened glass, as well as other transparent glass and crystalline materials.

Key Benefits
• Free-form, net-shape or near net-shape cutting at up to 1m/s (depending on contour)
• Cuts: curved, straight, perpendicular and angled lines as well as holes and slots (depending on tool setup)
• Cuts glass from 50µm up to 6 mm in thickness
• Automatic/touch-free separation process (material dependend)
• Eliminates fluids and tooling required in traditional processing methods

Applications
Advanced multi purpose and flexible laser machining system for:
Processing Glass Substrates
• Automotive windshields, roofs, sidelites, backlites
• Automotive interior glass
• Consumer electronics
• Architectural glass
• Display technologies
• Coated substrates
• Thin glass
• Strengthened and non-strengthened glass
• Drilling of through holes and vias
• Electronic components
This system is also extremely well suited for different kinds of Micro Materials Processing, such as:
Other Materials
• Cutting of OLED, PI, wafer, ceramic, plastic, and other brittle materials.
CLT 66G Technical Specifications

Mechanics
Machine base and vertical structure are made from solid granite blocks
X-Y single or double gantry design available
Z-axis motorized (CNC-axis)
Machine optimized for high precision processing at high speed
Class 1 laser safety chamber

Axes
<table>
<thead>
<tr>
<th>Axis</th>
<th>Travel</th>
<th>Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-axis</td>
<td>1700 mm</td>
<td>linear motor 1)</td>
</tr>
<tr>
<td>Y-axis</td>
<td>2000 mm</td>
<td>linear motor 1)</td>
</tr>
<tr>
<td>Z-axis</td>
<td>80 mm</td>
<td>rotation motor 1)</td>
</tr>
<tr>
<td>max. traverse speed</td>
<td>up to 1000 mm/s (pattern dependent)</td>
<td></td>
</tr>
<tr>
<td>max. acceleration</td>
<td>up to 10 m/s² (pattern dependent)</td>
<td></td>
</tr>
</tbody>
</table>

Accuracy
Pattern accuracy < +/- 100 µm for parts cut out of a GEN6 substrate 2)
Accuracy depends on pattern geometry and process speed

CNC-Control
TwinCat 3 CNC control for all machine functions (G-code)

Operator Interface
Based on Microsoft Windows 7 with CLT HMI

Machine Vision
Integrated in standard configuration for fiducial recognition

Loading / Unloading
Manual loading of substrates / unloading of parts

Options
Automation available for loading and unloading (e.g. tilt table, parts picking unit)
Glass waste management
MES connection

Electrical Supply
<table>
<thead>
<tr>
<th>Rating</th>
<th>Power consumption (peak/ average)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400 Volts, 3Ph+N+PE, 50/60 Hz (transformer available)</td>
</tr>
<tr>
<td></td>
<td>23 kVA/ 15 kVA 3); 13 kW/ 9 kW 1)</td>
</tr>
</tbody>
</table>

Cooling
<table>
<thead>
<tr>
<th>Rating (peak/ average)</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.0 kW/ 4.0 kW 3)</td>
<td>min. 15 l/min, max. 25 l/min 3)</td>
</tr>
</tbody>
</table>

Compressed Air
<table>
<thead>
<tr>
<th>Supply pressure</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>min. 6 bar / max. 8 bar 3)</td>
<td>typ. 80 l/min, peak: 150 std. liter/min at 50% duty cycle</td>
</tr>
</tbody>
</table>

Exhaust Air from Machine Enclosure
| Volume | min. 450 m³/h 3) |

Exhaust Air from Process Head
| Volume | up to 200 m³/h exhaust air 3) |

Machine Vacuum
No requirement at customer site
Will be provided by a side channel blower inside the equipment

Machine Size and Weight
Dimensions, including electrical/supporting cabinets, load/unload units and waste glass management
<table>
<thead>
<tr>
<th>Size: Width x Depth x Height 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.300 x 5.605 x 2.900 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>approx. 11000 kg (depending on configuration)</td>
</tr>
</tbody>
</table>

Dimensions, including service area
<table>
<thead>
<tr>
<th>Size: Width x Depth x Height 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.300 x 7.605 x 4.000 mm</td>
</tr>
</tbody>
</table>

Temperature
<table>
<thead>
<tr>
<th>18 °C min., 22 °C max., non condensing</th>
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</thead>
<tbody>
<tr>
<td>Deviation +/- 2 °C</td>
</tr>
</tbody>
</table>

1) Nominal travel range. Effective travel range may be reduced by use of multiple process heads and/or cameras.
2) Environmental controlled room required.
3) These values may vary, depending on the tool configuration, e.g. type of laser source.
Specifications are subject to change without notice.

For more information:
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